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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/009,971	10/30/2001	Klaus Ohm	21381/0212114-US0	3314
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EXAMINER				
BHAT, ADITYA S				
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2863				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/009,971

Applicant(s)

OHM, KLAUS

Examiner

ADITYA BHAT

Art Unit

2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2009.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-38 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 20-38 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 30 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB-08)
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____
Paper No(s)/Mail Date: _____

DETAILED ACTION

Status

1. Claims 20-38 are currently pending in this application. Claims 1-19 have been cancelled.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

3. The drawings submitted on 10/30/2001 are in compliance with 37 CFR § 1.81 and 37 CFR § 1.83 and have been accepted by the examiner.

Claim Objections

Claims 20 and 33 objected to because of the following informalities:

With regards to claim 20, the term the control parameter has no antecedent basis

With regards to claim 33, the term "see" should be "sea".

Appropriate correction is required.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 20-26 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Specifically, the process steps should (1) be tied to another statutory class (such as a particular apparatus) or (2) transform underlying subject matter (such as an article

or materials) to a different state or thing. If neither of these requirements is met by the claim, the method is not a patent eligible process under 35 USC § 101 and has been rejected as being directed towards non-statutory subject matter.

In this instance it is unclear what specification apparatus is performing the arranging measuring and controlling steps.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 20-25 and 27-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dauphinee (USPN 3,963,979).

With regards to claims 20 and 27, Dauphinee (USPN 3,963,979) teaches a method and apparatus for determining the salinity of liquids by standard calibrated measurements of the electrical conductivity of a heated liquid sample in a measuring cell, comprising the steps of:

arranging the measuring cell in a constantly cooled (19b; col. 2, lines 33-36) and mechanically stirred (17; fig 1) as well as heatable (19a) water bath insulated to the exterior under control parametric consideration of the thermal conditions in the water bath; (col. 2, lines 60-65)

measuring the actual temperature as an equivalent of the temperature of the sample at a high repetitive accuracy and with a maximum permissible lag error between the temperature of the water bath (col. 6, lines 1-2) and sample temperature set by the required accuracy of determining the salinity (S), (Col. 1, lines 39-40) the control (19c) parameter for taking into account the thermal conditions being the time-wise drift of the temperature derivable from the temperature measurements, the permissible maximum value of which is defined as the quotient of the maximum permissible lag error and a time constant (τ) of the measuring cell (MC) for a temperature equalization between the interior of the measuring cell and the water bath (WB),(Col. 2, lines 24-65) and

controlling the permissible maximum value of the time-wise drift of the temperature (gB) of the water bath by maintaining a low-lag and quickly controllable compensation of the heat currents ($P \pm$) flowing into and out of the water bath (WB) (col. 2, lines 30-36)

Dauphinee (USPN 3,963,979) does not appear to disclose controlling the residual heat so that it does not exceed a predetermined maximum value/threshold.

Dauphinee (USPN 3,963,979) does teach controlling the water bath at a uniform temperature.

It would obvious to one of ordinary skill in the art at the time of the invention to modify the Dauphinee (USPN 3,963,979) to include a threshold in order to maintain a uniform temperature.

With regards to claim 21, Dauphinee (USPN 3,963,979) maintaining the temperature of the water bath by the resultant residual heat current at the mean ambient temperature **approximately** with a deviation of ± 1 K. (col. 2, lines 30-36)

It is unclear what the boundaries and limitations of the word approximately are. While applicant claims the deviation of ± 1 K the term approximately renders this limitation indefinite. Further if applicant feels this range to be anything more than a means for determining optimum value, applicant is requested to explain why using this particular range is novel.

Please refer to In re Aller, 105 USPQ 233. and In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

With regards to claims 22 and 29, Dauphinee (USPN 3,963,979) comprising the step of utilizing the energy input into the water bath (WB) by the stirring (PR) for the quick and low-lag controllable heating (PH) thereof.(17;figure 1)

With regards to claim 23, Dauphinee (USPN 3,963,979) the step of providing high heat resistance (R) of the exterior insulation (I) of the water bath (WB). (15;figure 1)

With regards to claim 24, Dauphinee (USPN 3,963,979) the step of providing water bath cooling (PE) of high heat resistance (R) on the side of the bath. (19b;figure 1)

With regards to claim 25, Dauphinee (USPN 3,963,979) the step of adjusting the temperature

of the liquid sample (~p) to the temperature (gB) of the water bath in a separately controlled advance bath (PB). (10;figure 1)

With regards to claim 28, Dauphinee (USPN 3,963,979) the precision thermometer (TM) is provided with temperature dependent semiconductor resistors. (Col. 4, lines 20-23)

With regards to claim 29, Dauphinee (USPN 3,963,979) the means for stirring provided for stirring and heating the water bath (WB) is structured as a rotationally controllable stirring propeller (Q) having a stirring vane (SP) similar to a ship's screw of high hydrodynamic efficiency which and is rotatable by a continuously controllable electric motor (EM) arranged at the exterior of the water bath (WB). (figure 1)

With regards to claim 30, Dauphinee (USPN 3,963,979) at least one Peltier element provided with a thermal insulation (I) at the cooling side of the water bath (WB) is arranged at the wall of the water bath (WB). (figure 1)

With regards to claim 31, Dauphinee (USPN 3,963,979) the measuring cell (MC) is provided with strip electrodes (SE) and has a volume in the range of 2 ml. (Col.2, lines 40-49)

With regards to claim 32, Dauphinee (USPN 3,963,979) a separate controllable advance bath (PB) with a preheat exchanger (PWT) is provided for heating the liquid sample (PROBE). (19c; figure 1)

With regards to claim 33, Dauphinee (USPN 3,963,979) wherein for carrying out standard calibrations and measurements there a four-way valve(13) is provided which comprises inputs respectively connected to a vial (A) of standard sea water (SSW), a bottle (B) of sample water (PROBE) and to cleaning and air conduits (H2O, Air). (figure 1)

With regards to claim 34, Dauphinee (USPN 3,963,979) a diaphragm pump (MP) is provided for evacuating the measuring cell. (figure 1)

With regards to claim 35, Dauphinee (USPN 3,963,979) a dosage pump (DP) is provided for filling the measuring cell (MC). (figure 1)

With regards to claim 36, Dauphinee (USPN 3,963,979) r regulating the water bath, controlling the measuring sequence. (19c; Col. 2, lines 34-36)

With regards to claim 37, Dauphinee (USPN 3,963,979) a fully automatic precision balancing bridge (Col. 3, lines 57-58) for measuring the conductivity of the liquid sample (PROBE). (Col. 2, lines 40-41)

8. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dauphinee (USPN 3,963,979) in view of (BATS methods -April 1997).

With regards to claim 26, Dauphinee (USPN 3,963,979) the steps of calculating the salinity (S) of the liquid sample (PROBE) from the measured values of temperature (ga) and conductivity (K) on the basis of the UNESCO formula. (Col. 4, lines 45-50)

Dauphinee (USPN 3,963,979) discloses the claimed invention except for carrying out the measuring sequence automatically by a computer to calculate the salinity using the UNESCO formula. It would have been obvious to one having ordinary skill in the art at the time the invention was made to automatically carry out the measuring sequence and calculate the salinity using the UNESCO formula, since it has been held that broadly providing a mechanical or automatic means to replace manual activity which has accomplished the same result involves only routine skill in the art. In re Venner, 120 USPQ 192.

Further the UNSECO formula is a well know formula used to calculate the salinity. (See page 27 BATS methods -April 1997)

Further it should be noted that the N.L. Brown (US 3,491,287) reference teaches a computer for carrying out salinity computations. (col. 2, lines 2-22)

It would've been obvious to one of ordinary skill in the art at the time of the invention to modify the Dauphinee (USPN 3,963,979) reference to use a computer to calculate the salinity as it would be highly desirable to automate the process and achieve the computations at a more rapid rate.

9. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dauphinee (USPN 3,963,979) in view of N.L. Brown (US 3,491,287).

With regards to claim 38, Dauphinee (USPN 3,963,979) does not appear to disclose an indicator for signaling satisfied measuring conditions.

N.L. Brown (US 3,491,287) teaches an indicator for signaling satisfied measuring conditions. (Col. 2, lines 45-47)

It would've been obvious to one of ordinary skill in the art at the time of the invention to modify the Dauphinee (USPN 3,963,979) reference to include the indicator as it would be highly desirable to know when the desired conditions have been met in order to know exactly what the salinity levels are at any given time. (col. 2, lines 44-46)

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Doddinton et al. (USPN 4,020,677) teaches a apparatus for determining salinity of fluids.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ADITYA S. BHAT whose telephone number is (571)272-2270. The examiner can normally be reached on M-F 9-5:30.

12. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aditya Bhat/
Primary Examiner, Art Unit 2863
March 18, 2010